IMAGES IN EMERGENCY MEDICINE

Obstetrics and Gynecology

A case of acute onset right lower quadrant abdominal pain

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1 | PATIENT PRESENTATION

A previously healthy 31-year-old female presented to a community emergency department for concerns of acute onset right lower quadrant abdominal pain and right flank pain with associated nausea and vomiting. The patient recalled a possible past surgical history of an elective appendectomy, but could not be certain and reference records were not obtained. Workup was significant for a leukocytosis of 18.6 K/μL, lactate of 2.2 mmol/L, and a negative qualitative human chorionic gonadotropin (hCG). A broad differential was considered. Given the patient's level of pain and distribution of tenderness on examination, urolithiasis was highest on the differential. Both transvaginal/transabdominal ultrasound (US) (Figure 1) and computed tomography (CT) abdomen and pelvis without contrast (Figure 2) were obtained concomitantly.

LONG RT ADNEXA   MED-LAT
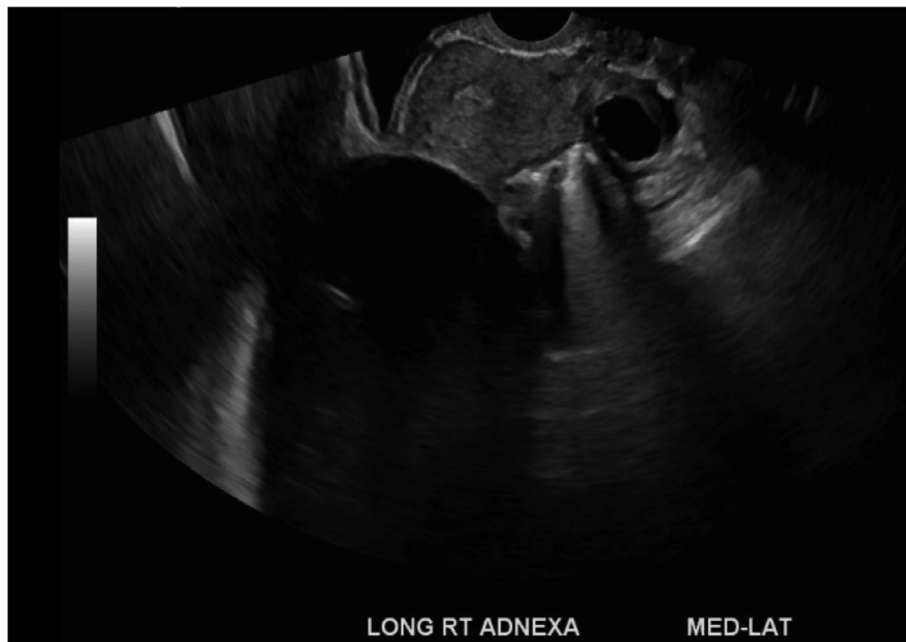
FIGURE 1 Transvaginal ultrasound showing minimal vascularity of the right ovary noted on the periphery of the ovary. There is a large simple cyst that appears to be arising from the right ovary.

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FIGURE 2 Coronal image from a non-contrast-enhanced computed topography (CT) abdomen and pelvis showing a right ovarian cyst measuring 11 × 19 × 19 cm.

2 | DIAGNOSIS: OVARIAN TORSION

Ovarian torsion is primarily a clinical diagnosis in the emergency department for females presenting with pelvic pain. The gold standard being direct visualization of the twisted ovary. Understanding the pathophysiology of ovarian torsion is aided by an understanding of anatomy. The ovary is suspended by two ligaments: the utero-ovarian ligament and the infundibulopelvic ligament. It receives its blood supply from the ovarian artery and the ascending branch of the uterine artery. For this reason, a Doppler study with flow does not entirely rule out ovarian torsion. Doppler transvaginal/transabdominal US (with or without an empty bladder) has sensitivity of 75%–85% and is the preferred initial imaging modality of choice.[1] Concerning US findings include an asymmetrically enlarged ovary (>4 cm), ovarian edema, and peripherally displaced follicles. Discrete masses may be identified as well. Typically, more unfavorable masses such as tubo-ovarian abscess or malignancy develop adhesions.[2] Additionally, like this patient, if broader intraabdominal pathologies are suspected, a CT abdomen and pelvis with contrast is the appropriate initial imaging modality. A CT a/p with contrast without secondary findings (evidence of ovarian enlargement > 4 cm, ovarian fat stranding, asymmetric contrast enhancement, adnexal twisting, ovarian dimpling, free fluid, and deviation of the uterus toward the side in question) may effectively rule out ovarian torsion with sensitivities approaching 100%.[3] Although any age group can be susceptible to ovarian torsion, reproductive age females are most at risk due to the regular development of a corpus luteal cyst.[4] The patient in this case was taken emergently to the operating room where a very large ovarian cyst was removed, and she was discharged the following day.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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